

Data Mangement

Types of Graphs

Bar Graph - comparison between two or more things

Pie Chart (Circle Graph) % of total

i.e. budget

Broken Line Graph - trends

Scatterplot - multiple samples - correlation


Keys Border, Title and *Scale (consistent and extend beyond the greatest value of x and y)*

Dec 20-7:47 AM

Prerequisite Skills: Bar Graphs
Principles of Mathematics 9, Student Skills Book, pages 12-13

Practice

- This bar graph shows the number of people that visited a shopping mall during one week.



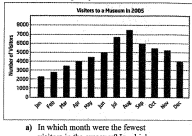
- On which day did the fewest people visit the shopping mall? On which day did the most people visit the shopping mall?
- Describe any trends in the number of customers during this week at the shopping mall.

- This table shows the number of members attending a golf club during one week.

Day	Number of Members
Monday	238
Tuesday	245
Wednesday	220
Thursday	264
Friday	270
Saturday	350
Sunday	325

- Make a bar graph of the data.
- Describe any trends in member attendance during this week at the golf club.

- This bar graph shows the number of visitors during the year 2005 to museum.



- In which month were the fewest visitors in the museum? In which month were the most visitors in the museum?
- Describe any trends in the number of visitors during this year at the museum.

- This table shows the average cost of 1 L of milk in various cities across Canada for one week in July in 2006.

City	Average Cost of Milk (¢/L)
St. John's, NL	1.15
Charlottetown, PE	1.11
Halifax, NS	1.15
Saint John, MB	1.17
Montreal, QC	1.08
Toronto, ON	1.05
Winnipeg, MB	1.03
Regina, SK	1.04
Calgary, AB	1.08
Vancouver, BC	1.08

- Make a bar graph of the data.
- In what regions was the average cost of milk the least? Why?

Prerequisite Skills • MCH 9

Measures of Central Tendency

Mean- Average (add up/ total entries)

Median- Middle Number (Rank Order)

Mode- Most Often

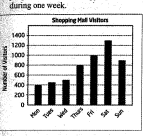
Range- Difference b/n the highest and lowest value

Dec 20-8:43 AM

Prerequisite Skills: Bar Graphs
Principles of Mathematics 9, Student Skills Book, pages 12-13

Practice

- This bar graph shows the number of people that visited a shopping mall during one week.



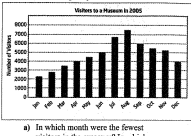
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- Make a bar graph of the data.
- In what regions was the average cost of milk the least? Why?

Prerequisite Skills • MCH 9

Prerequisite Skills: Scatter Plots
Principles of Mathematics 9, Student Skills Book, pages 15-16

Practice

- This table shows the ages and weekly incomes of 15 employees at a company.

Age (years)	Weekly Income (\$)
27	692
28	725
30	650
32	725
33	720
35	740
38	600
40	750
45	780
46	760
47	650
50	650
51	840
55	660
59	900

Make a scatter plot of the data. Put age on the horizontal axis and income on the vertical axis.

- This table shows the lengths, from the nose to the end of the tail, and the masses of different types of cats.

Type of Cat	Length (cm)	Mass (kg)
Lin	300	182
Lioness	270	140
Oswest	180	45
Mountain Lion	240	90
Jaguar	260	140
Leopard	285	70
Tiger	270	186
Tigeress	240	135
Lynx	90	30

Make a scatter plot of the data. Put length on the horizontal axis and mass on the vertical axis.

- This table shows approximate driving distances and times from North Bay, Ontario to various cities in Ontario.

City	Distance (km)	Driving Time (h)
Barrie	237	3.0
Haliburton	147	1.8
Kapuskasing	478	5.0
London	488	6.0
New Liskeard	149	1.5
Ottawa	365	4.0
South Ste Marie	434	4.5
Rushville	125	1.5
Thunder Bay	1032	11.0
Timmins	350	4.0
Toronto	330	3.5
Windsor	675	8.0

Make a scatter plot of the data. Put distance on the x-axis and driving time on the y-axis. Label the axes, and include a title for the scatter plot.

- This table shows the height and the circumference of a tree at different ages.

Age (years)	Height (m)	Circumference (cm)
1	1.1	15.2
2	1.1	18.2
3	2.4	20.7
4	2.5	23.2
5	3.1	27.0
6	4.3	29.5
7	4.5	30.0
8	5.3	33.9

Make a scatter plot of the data. Put height on the x-axis and circumference on the y-axis. Label the axes, and include a title for the scatter plot.

Prerequisite Skills • MCH 11

Prerequisite Skills: Scatter Plots
Principles of Mathematics 9, Student Skills Book, pages 15-16

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Make a scatter plot of the data. Put height on the x-axis and circumference on the y-axis. Label the axes, and include a title for the scatter plot.

Prerequisite Skills • MCH 11

Prerequisite Skills: Measures of Central Tendency
Principles of Mathematics 9, Student Skills Book, pages 14

Practise

1. Find the mean, median, and mode for each set of data.

- a) 13, 15, 17, 14, 15
- b) 30, 35, 32, 30, 31
- c) 52, 55, 54, 55, 56
- d) 40, 42, 43, 43, 46
- e) 88, 83, 85, 89, 84
- f) 21, 25, 24, 26, 21

2. Find the mean, median, and mode for each set of data.

- a) 31, 32, 34, 32, 35, 37
- b) 51, 54, 56, 55, 57, 54
- c) 81, 85, 84, 82, 85, 87
- d) 60, 67, 68, 68, 62, 65
- e) 46, 45, 47, 44, 41, 47
- f) 90, 95, 94, 90, 93, 96

3. Find the mean, median, and mode for each set of data. Round to one decimal place, when necessary.

- a) 19, 23, 26, 21, 24, 17, 23
- b) 41, 34, 36, 34, 37, 34, 40
- c) 74, 65, 64, 72, 75, 66, 64
- d) 40, 54, 48, 48, 52, 45, 53

4. Find the mean, median, and mode for each set of data. Round to two decimal places, when necessary.

- a) 2.3, 2.1, 1.9, 1.9, 2.6
- b) 4.5, 4.3, 3.4, 3.8, 4.3
- c) 6.4, 6.5, 6.4, 7.4, 7.6, 6.4
- d) 8.0, 9.4, 8.8, 8.8, 9.2, 8.4

5. The masses, in kilograms, of twelve different models of bicycles are shown.

14.8	15.1	12.5	13.7
15.2	12.7	13.5	12.3
12.7	13.8	14.7	13.9

Find the mean, median, and mode. Round to the nearest hundredth of kilogram, when necessary.

6. For the mass data in question 5, which measure of central tendency best represents the "average" mass of bicycles? Explain.

7. The weights, to the nearest kilogram, of a group of 16-year-olds are shown.

67.2	68.3	59.7	67.5
58.3	70.3	62.3	69.4
72.3	58.2	62.5	71.3
68.4	90.2	69.4	72.3
69.4	71.4	72.4	67.5

Find the mean, median, and mode.

8. For the weight data in question 7, which measure of central tendency represents the "average" weight of 16-year-olds? Explain.

10 MHR • Exercise and Homework Book

q. 5
Measures
of
Central
Tendency

12.3
12.5
12.7
12.7
13.5
13.7
13.8
13.9
14.7
14.8
15.1
15.2

Mean
 $164.9/12 = 13.7$
Range - 2.9
Median
13.7 or 13.8
13.75
Mode
12.7

The typical weight of a bicycle is 13.7kg because the range is quite small and the median helps support the value of the mean.

Dec 20-9:14 AM

Prerequisite Skills: Measures of Central Tendency
Principles of Mathematics 9, Student Skills Book, pages 14

Practise

1. Find the mean, median, and mode for each set of data.

- a) 13, 15, 17, 14, 15
- b) 30, 35, 32, 30, 31
- c) 52, 55, 54, 55, 56
- d) 40, 42, 43, 43, 46
- e) 88, 83, 85, 89, 84
- f) 21, 25, 24, 26, 21

2. Find the mean, median, and mode for each set of data.

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- c) 81, 85, 84, 82, 85, 87
- d) 60, 67, 68, 68, 62, 65
- e) 46, 45, 47, 44, 41, 47
- f) 90, 95, 94, 90, 93, 96

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- b) 41, 34, 36, 34, 37, 34, 40
- c) 74, 65, 64, 72, 75, 66, 64
- d) 40, 54, 48, 48, 52, 45, 53

4. Find the mean, median, and mode for each set of data. Round to two decimal places, when necessary.

- a) 2.3, 2.1, 1.9, 1.9, 2.6
- b) 4.5, 4.3, 3.4, 3.8, 4.3
- c) 6.4, 6.5, 6.4, 7.4, 7.6, 6.4
- d) 8.0, 9.4, 8.8, 8.8, 9.2, 8.4

5. The masses, in kilograms, of twelve different models of bicycles are shown.

14.8	15.1	12.5	13.7
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8. For the weight data in question 7, which measure of central tendency represents the "average" weight of 16-year-olds? Explain.

10 MHR • Exercise and Homework Book